

AMENDMENT TO THE CLAIMS

Claims 1-19 (Canceled)

20. (Currently amended) A method of detecting urea in a liquid [such as] selected from the group consisting of blood, other urea containing body fluids, dialysate [or] and a combination thereof, comprising,

bringing said liquid into contact with a voltammetric electronic tongue, having at least one working electrode composed of a transition metal,

applying a predefined potential pulse program to said working electrode and a counter electrode,

recording current response data caused by the potential pulse program, and performing a mathematical analysis of recorded current response data according to a model based on multivariate analysis to provide a result,

wherein said method detects the concentration of urea in the liquid.

21. (Previously presented) The method of claim 20, wherein said working electrode is selected from the group consisting of platinum, gold, rhodium, iridium and alloys thereof.

22. (Previously presented) The method of claim 20, wherein the potential pulse program comprises potential pulses each having a duration of less than 700 ms.

23. (Currently amended) The method of claim 22, wherein the pulses of said potential pulse program exhibit a stepped amplitude sequence, and wherein said pulses extend from a positive to a negative potential or vice versa during each period in the pulse train, where the period of each pulse is the time from the start of the pulse sequence to the point at which the pulse sequence starts to repeat itself.

24. (Canceled)

25. (Currently amended) The method of claim 24, wherein one electrode is platinum and the initial pulse step is from $-2V$ to $+2V$, and successive pulses thereafter incrementally [decreases] decrease towards zero, and optionally after a cross-over at zero V, the steps change polarity such that the subsequent pulses extend from negative to positive until a maximum of $-2V$ and $+2V$ respectively, is reached, and then back to zero.

26. (Currently amended) A system for detection of urea concentration in liquid [such as] selected from the group consisting of blood, [other] urea containing body fluids, dialysate [or] and a combination thereof, according to the method of claim 20 comprising,

a voltammetric sensor unit comprising at least one working electrode, wherein
said sensor unit is arranged in a dialysate flow path after a filter unit of a dialysis
apparatus,

a counter electrode,

a potentiostat having a programmable pulse generator, and

a processing unit arranged to determine the urea concentration in the liquid by mathematical processing of voltammetric data using a model based on multivariate analysis.

27. (Previously presented) The system of claim 26, further comprising a reference electrode.

28. (Canceled)

29. (Previously presented) The system of claim [28] 26, comprising a further sensor unit, arranged before said filter unit.

30. (Canceled)

31. (Previously presented) The system of claim 30, wherein said blood is sampled by continuously withdrawing blood from a patient, and wherein said sensor unit is arranged in the flow path of the blood.

32. (Previously presented) The system of claim 26, comprising a display unit for graphically monitoring the measurements in real-time, e.g. as a graph.

33. (Previously presented) The system of claim 26, further comprising a device presenting a visual and/or audio signal representation of when a predefined result has been detected.